CLAIMS

1. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system for optical data transmission signals having at least one input for an optical N-channel input signal and at least one output for an altered N-channel output signal, the network element comprising:

at least one demultiplexer for frequency-dependent splitting of the at least one input signal into a plurality of paths for individual sub-bands; and

at least one amplifier and at least one multiplexer provided for each of the plurality of paths for combining the individual sub-bands.

2. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, wherein each amplifier has an individual open-loop or closed-loop control.

3. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, further comprising a dispersion-compensating element in at least one of the plurality of paths.

4. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 3, wherein the at least one amplifier is EDFA and is individually controlled in an open-loop or closed-loop manner.

5. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, further comprising a common amplifier, acting over an entire spectrum of the data transmission signal, arranged upstream of the demultiplexer.

6. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, further comprising a common amplifier, acting over an entire spectrum of the data transmission signal, arranged downstream of the multiplexer.

7. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, further comprising a common dispersion-compensating element, acting over an entire spectrum of the data transmission signal, arranged downstream of the multiplexer .

8. A network element for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 1, wherein K paths with m channels are provided, N=K*m holding true, where m is greater than or equal to 1.

9. A data transmission link, comprising:

a transmitter;

a receiver;

a plurality of amplifier elements interposed between the transmitter and receiver; and

at least one network element interposed between the transmitter and the receiver, the network element for compensation of tilting in the data transmission link of a wavelength division multiplex system for optical data transmission signals having at least one input for an optical N-channel input signal and at least one output for an alterned N-channel output signal, the network element including at least one demultiplexer for frequency-dependent splitting of the at least one input signal into a plurality of paths for individual sub-bands, at further including at least one amplifier and at least one multiplexer for each of the plurality of paths for combination of the individual sub-bands.

10. A data transmission link as claimed in the Claim 9, further comprising a measuring device for determining the tilting, the measuring device being arranged downstream of the at least one network element, and by which device control information can be transmitted to the at least one network element for controlling a degree of tilting.

11. A method for compensation of tilting in data transmission links of a wavelength division multiplex system for an optical data transmission signal, the method comprising the steps of:

splitting a frequency band of the optical data transmission signal into a plurality of individual sub-bands; and

subjecting each sub-band, individually, to one of amplification and attenuation such that, after combination of the plurality of individual sub-bands, an originally existing tilting or ripple is largely compensated.

12. A method for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 11, the method further comprising the step of performing open-loop or closed-loop control of the amplification.

13. A method for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 11, the method further comprising the step of performing tilting influencing, with an EDFA, for each individual sub-band.

14. A method for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 13, the method further comprising the step of performing open-loop or closed-loop control of the tilting influencing.

15. A method for compensation of tilting in data transmission links of a wavelength division multiplex system as claimed in Claim 11, wherein the entire data transmission signal with a total of N channels is split between K sub-bands with m channels in each case, N=K*m holding true, where m is greater than or equal to 1.